

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. - 7. (canceled)

8. (withdrawn) A method of producing a catalyst carrier, which comprises forming an alumina thin film on a surface of a silicon-containing ceramic carrier through the following steps (a) – (e).

(a) Solution immersing step: the carrier is immersed in a solution of aluminum containing metal compound.

(b) Drying step: the carrier is heated and dried.

(c) Calcining step: the carrier is heated and fired at a temperature of not lower than 300-500°C to form amorphous alumina thin film.

(d) Heat treating step: the carrier is immersed in a hot water of 100°C and dried.

(e) Finish firing step: it is fired at 500-1200°C.

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9. (withdrawn) A method of producing a catalyst carrier, which comprises forming an alumina thin film on a surface of a silicon-containing ceramic carrier through the following steps (a) – (f).

- (a) Preliminary treating step: the silicon-containing ceramic carrier is heated to a temperature of 1000-1500°C to form an oxide film of the silicide.
- (b) Solution immersing step: the carrier is immersed in a solution of aluminum containing metal compound.
- (c) Drying step: the carrier is heated and dried.
- (d) Calcining step: the carrier is heated and fired at a temperature of not lower than 300-500°C to form amorphous alumina thin film.
- (e) Heat treating step: the carrier is immersed in a hot water of 100°C and dried.
- (f) Finish firing step: it is fired at 500-1200°C.

10. (withdrawn) The method according to claim 8, wherein the silicon-containing ceramic carrier is constructed with a carrier of silicide including a non-oxide ceramic such as silicon carbide or silicon nitride and an oxide ceramic such as sialon, mullite or cordierite.

11. (withdrawn) The method according to claim 8, wherein the silicon-containing ceramic carrier is any of a porous body, fiber shaped body and pellet shaped body.

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12. (withdrawn) The method according to claim 8, wherein the silicon-containing ceramic carrier is formed by a honeycomb-like porous silicon carbide sintered body.

13. (withdrawn) The method according to claim 8, wherein the silicon-containing ceramic carrier has a SiO₂ layer on its surface, and an amount of SiO₂ occupied in the carrier is 0.001-20 wt%.

14. (canceled)

15. (withdrawn) The method according to claim 9, wherein the silicon-containing ceramic carrier is constructed with a carrier of silicide including a non-oxide ceramic such as silicon carbide or silicon nitride and an oxide ceramic such as sialon, mullite or cordierite.

16. (withdrawn) The method according to claim 9, wherein the silicon-containing ceramic carrier is any of a porous body, fiber shaped body and pellet shaped body.

17. (withdrawn) The method according to claim 9, wherein the silicon-containing ceramic carrier is formed by a honeycomb-like porous silicon carbide sintered body.

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18. (withdrawn) The method according to claim 9, wherein the silicon-containing ceramic carrier has a SiO_2 layer on its surface, and an amount of SiO_2 occupied in the carrier is 0.001-20 wt%.

19. (new) A catalyst carrier, wherein the carrier comprises particles of a silicon-containing ceramic material and each of these particles is covered by a film of alumina, wherein the film of alumina has a specific surface area of 50-300 m^2/g and a microscopic view thereof indicates a bristled transplant structure comprising fibers having a diameter of from 2 nm to 50 nm, a length of from 20 nm to 300 nm and a ratio of length/diameter of from 5 to 100.

20. (new) The catalyst carrier of claim 19, wherein the silicon-containing ceramic material comprises a non-oxide silicon ceramic.

21. (new) The catalyst carrier of claim 20, wherein the non-oxide silicon ceramic material comprises at least one of silicon carbide and silicon nitride.

22. (new) The catalyst carrier of claim 19, wherein the silicon-containing ceramic material comprises an oxide silicon ceramic.

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23. (new) The catalyst carrier of claim 22, wherein the oxide silicon ceramic comprises at least one of sialon, mullite and cordierite.

24. (new) The catalyst carrier of claim 19, wherein the carrier comprises at least one of a porous body, a fiber-shaped body and a pellet-shaped body.

25. (new) The catalyst carrier of claim 19, wherein the carrier comprises a honeycomb-shaped porous sintered body of silicon carbide.

26. (new) The catalyst carrier of claim 19, wherein the silicon-containing ceramic material comprises a layer of SiO_2 on a surface thereof.

27. (new) The catalyst carrier of claim 26, wherein the amount of SiO_2 in the carrier is from 0.001 % to 20 % by weight.

28. (new) The catalyst carrier of claim 19, wherein the alumina film is present in the carrier in an amount of from 0.1 % to 15 % by weight, based on the carrier and expressed as alumina.

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29. (new) A catalyst carrier, wherein the carrier comprises particles of a silicon-containing ceramic material and each of these particles is covered by a film of alumina, and wherein the silicon-containing ceramic material comprises a layer of SiO_2 on a surface thereof, an amount of SiO_2 in the carrier being from 0.001 % to 20 % by weight.

30. (new) The catalyst carrier of claim 29, wherein the silicon-containing ceramic material comprises a non-oxide silicon ceramic.

31. (new) The catalyst carrier of claim 30, wherein the non-oxide silicon ceramic material comprises at least one of silicon carbide and silicon nitride.

32. (new) The catalyst carrier of claim 29, wherein the silicon-containing ceramic material comprises an oxide silicon ceramic.

33. (new) The catalyst carrier of claim 32, wherein the oxide silicon ceramic comprises at least one of sialon, mullite and cordierite.

34. (new) The catalyst carrier of claim 29, wherein the carrier comprises at least one of a porous body, a fiber-shaped body and a pellet-shaped body.

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35. (new) The catalyst carrier of claim 29, wherein the carrier comprises a honeycomb-shaped porous sintered body of silicon carbide.

36. (new) The catalyst carrier of claim 29, wherein the alumina film is present in the carrier in an amount of from 0.1 % to 15 % by weight, based on the carrier and expressed as alumina.